

## Patent Claims

1. An electrode arrangement for an electrical component and carrier for sensors, which arrangement is applied on a substrate (1), this arrangement consisting of two  
 5 electrically conductive electrodes (2), which are not electrically connected with one another, and a surface structure with suitable dimensions for the representation of the conductivities of the electrode arrangement and/or of the substance of a sensor-active layer by the  
 10 conductance of a measuring probe or of a function element, so characterized that on a dielectric substrate (1) between two electrodes (2) a number of conductive islands (3), which are not or are not essentially connected with one another, are applied as a two-dimensional area arrangement.
- 15 2. An electrode arrangement for an electrical component and carrier for sensors, which arrangement is applied on a substrate (1), this arrangement consisting of two electrically conductive electrodes (2), which are not electrically connected with one another, and a surface  
 20 structure with suitable dimensions for the representation of the conductivities of the electrode arrangement and/or of the substance of a sensor-active layer by the conductance of a measuring probe or of a function element according to claim 1, so characterized that the structure  
 25 of the conductive islands (3) consists of a fine distribution of conductive substances on any insulating substrate (1).
3. An electrode arrangement for an electrical component and carrier for sensors, which arrangement is applied on a  
 30 substrate (1), this arrangement consisting of two electrically conductive electrodes (2), which are not electrically connected with one another, and a surface

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structure with suitable dimensions for the representation of the conductivities of the electrode arrangement and/or of the substance of a sensor-active layer by the conductance of a measuring probe or of a function element according to claim 1, so characterized that the substance of the conductive islands (3) is firmly set on the substrate (1) and in particular it is sputtered on, steamed on, squirted on, dabbed on, imprinted or sprayed on.

4. An electrode arrangement for an electrical component and carrier for sensors, which arrangement is applied on a substrate (1), this arrangement consisting of two electrically conductive electrodes (2), which are not electrically connected with one another, and a surface structure with suitable dimensions for the representation of the conductivities of the electrode arrangement and/or of the substance of a sensor-active layer by the conductance of a measuring probe or of a function element according to claim 1, so characterized that the conductive islands (3) are arranged within special geometric figures.

5. An electrode arrangement for an electrical component and carrier for sensors, which arrangement is applied on a substrate (1), this arrangement consisting of two electrically conductive electrodes (2), which are not electrically connected with one another, and a surface structure with suitable dimensions for the representation of the conductivities of the electrode arrangement and/or of the substance of a sensor-active layer by the conductance of a measuring probe or of a function element according to claim 1, so characterized that the surface of the carrier for a sensor is coated with a material-selective substance.

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6. An electrode arrangement for an electrical component and carrier for sensors, which arrangement is applied on a substrate (1), this arrangement consisting of two electrically conductive electrodes (2), which are not electrically connected with one another, and a surface structure with suitable dimensions for the representation of the conductivities of the electrode arrangement and/or of the substance of a sensor-active layer by the conductance of a measuring probe or of a function element according to claim 1, so characterized that a carrier for the sensor with a sufficiently thin substrate (1) has a sensor-active layer on all sides.

7. An electrode arrangement for an electrical component and carrier for sensors, which arrangement is applied on a substrate (1), this arrangement consisting of two electrically conductive electrodes (2), which are not electrically connected with one another, and a surface structure with suitable dimensions for the representation of the conductivities of the electrode arrangement and/or of the substance of a sensor-active layer by the conductance of a measuring probe or of a function element according to claim 1, so characterized that the conductive islands (3) in their short-range order show hyperstructures with anisometries of the substances with respect to the substrate.

8. An electrode arrangement for an electrical component and carrier for sensors, which arrangement is applied on a substrate (1), this arrangement consisting of two electrically conductive electrodes (2), which are not electrically connected with one another, and a surface structure with suitable dimensions for the representation of the conductivities of the electrode arrangement and/or

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of the substance of a sensor-active layer by the conductance of a measuring probe or of a function element according to claim 1, so characterized that isotropic structures of conductive islands (3) with ring-shaped electrodes (2) are arranged on the substrate (1).

9. An electrode arrangement for an electrical component and carrier for sensors, which arrangement is applied on a substrate (1), this arrangement consisting of two electrically conductive electrodes (2), which are not electrically connected with one another, and a surface structure with suitable dimensions for the representation of the conductivities of the electrode arrangement and/or of the substance of a sensor-active layer by the conductance of a measuring probe or of a function element according to claim 1, so characterized that the electrode arrangement is designed as a large area as a function element in particular as panel heating elements or photo cells.

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